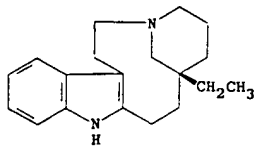
Ziegler *et al., ibid.* **91,** 2342 (1969); Kutney *et al., ibid.* **92,** 1727 (1970); V. S. Giri *et al., J. Heterocycl. Chem.* **17,** 1133 (1980); S. Takano *et al., Heterocycles* **16,** 247 (1981). Enantioselective synthesis: *eidem, Chem. Commun.* **1980,** 616; **1981,** 1153.

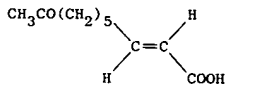


Bitter leaflets, mp 145-147°. $[\alpha]_D^{20}$ −109 to −110° (acetone). uv max (methanol): 230, 287, 293 nm (log ε 4.55, 3.85, 3.84). Sol in acetone, alc, chloroform, ether, dil acids.

8041. Quebracho Colorado. Red quebracho. Wood of *Loxopterygium lorentzii* Griseb., *Anacardiaceae. Habit.* Argentine Republic. *Constit.* Tannin, coloring matter, loxopterygine.

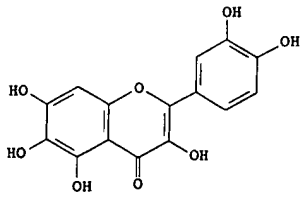
USE: In dyeing and tanning.

8042. Queen Substance. *(E)-9-Oxo-2-decenoic acid.* $C_{10}H_{16}O_3$; mol wt 184.23. C 65.19%, H 8.75%, O 26.05%. Secreted in the mandibular gland of queen honey bees *(Apis mellifera, A. florea, A. cerana, A. dorsata)*; inhibits the development of ovaries in worker bees, prevents queen cell formation and attracts male bees (drones) to virgin queens for the purpose of mating: Butler, *Experientia* **13,** 256 (1957); Sannasi, Rajulu, *Life Sci.* **10,** part 2, 195 (1971). Similarity with the ovary inhibiting hormone of prawns *(Leander serratus):* Carlisle, Butler, *Nature* **177,** 276 (1956). Extraction and purification: Carlisle, Butler, *loc. cit.;* Butler *et al., Nature* **184,** 1871 (1959). Synthesis: Barbier *et al., Compt. Rend.* **251,** 1133 (1960); Jaeger, Robinson, *Tetrahedron* **14,** 320 (1961); B. M. Trost, T. N. Salzman, *J. Org. Chem.* **40,** 148 (1975); J. Tsuji *et al., Tetrahedron Letters* **1977,** 2267; C. S. Subramaniam *et al., Ind. J. Chem.* **16B,** 318 (1978); T. Fujisawa *et al., Chem. Letters* **1982,** 219; Y. Naoshima *et al., Agr. Biol. Chem.* **48,** 2151 (1984).



Transparent elongated plates from ether + petr ether or aq methanol, mp 54.5-55.5°. Stable to heat, acids, less stable to alkalies. Sol in acetone, alcohol. IR spectrum: Butler *et al., loc. cit.*

8043. Quercetagetin. *2-(3,4-Dihydroxyphenyl)-3,5,6,7-tetrahydroxy-4H-1-benzopyran-4-one; 3,3',4',5,6,7-hexahydroxyflavone;* 6-hydroxycyanidenolon 1555. $C_{15}H_{10}O_8$; mol wt 318.23. C 56.61%, H 3.17%, O 40.22%. From flowers of French marigold, *Tagetes patula* Linn., *Compositae:* Perkin, *J. Chem. Soc.* **103,** 209 (1913). Synthesis: Baker *et al., ibid.* **1929,** 74; Rao, Seshadri, *Proc. Indian Acad. Sci.* **23A,** 23 (1946), *C.A.* **40,** 5052² (1946).

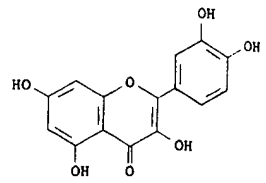


Dihydrate, pale yellow needles from dil alcohol, mp 318°. uv max (alc): 259, 361 nm (log ε 4.23, 4.34). Sol in hot alcohol; sparingly sol in boiling water.

Hexaacetate, $C_{27}H_{22}O_{14}$, needles from alcohol + acetic acid, mp 209-211°. Sparingly sol in alc.

7-Glucoside, $C_{21}H_{20}O_{13}$, *quercetagitrin.* From flowers of the African marigold, *Tagetes erecta* L., *Compositae:* Rao, Seshadri, *Proc. Indian Acad. Sci.* **14A,** 289 (1941), *C.A.* **36,** 2555³ (1942); from *Chrysanthemum coronarium* L., *Compositae:* Anyas, Steelink, *Arch. Biochem. Biophys.* 90, 61 (1960). Structure: Rajagopalan, Seshadri, *Proc. Indian Acad. Sci.* **28A,** 31 (1948), *C.A.* **43,** 4265b (1949). Crystals from aqueous pyridine, dec 236-238°. uv max (95% ethanol): 267, 272, 362 nm.

8044. Quercetin. *2-(3,4-Dihydroxyphenyl)-3,5,7-trihydroxy-4H-1-benzopyran-4-one; 3,3',4',5,7-pentahydroxyflavone;* meletin; sophoretin; cyanidenolon 1522. $C_{15}H_{10}O_7$; mol wt 302.23. C 59.61%, H 3.34%, O 37.06%. The aglycone of quercitrin, of rutin, and of other glycosides. Widely distributed in the plant kingdom, esp in rinds and barks, in clover blossoms and in ragweed pollen. Isoln from *Rhododendron cinnabarinum* Hook, *Ericaceae:* Rangaswami *et al., Proc. Indian Acad. Sci.* **56A,** 239 (1962), *C.A.* 58, 4[illegible] (1963). Structure: Underhill *et al., Can. J. Biochem Physiol.* **35,** 219 (1957). Biosynthesis: Watkin *et al., ibid.* 226 (1958); Grisebach, *Biochem. J.* **85,** 3p (1962); Patschke *et al., Z. Naturforsch.* **21b,** 201 (1966). Synthesis: Shakhova *et al., Zh. Obshch. Khim.* **32,** 390 (1962), *C.A.* **58,** 1426f (1963). Metabolism: Nakagawa *et al., Biochim. Biophys. Acta* 9[illegible] (1965). Toxicity data: M. Sullivan *et al., Proc. Soc. Exp. Biol. Med.* **77,** 269 (1951). *See also* Bioflavonoids.



Dihydrate, yellow needles from dil alcohol. Becomes anhydr at 95-97°. When anhydr dec 314°. uv max (alc): 258, 375 nm (log ε 2.75, 2.75). One gram dissolves in 2[illegible] ml abs alc, in 23 ml boiling alc. Soluble in glacial acetic acid, aq alkaline solns with yellow color. Practically insol in water. Alcoholic solns taste very bitter. LD_{50} orally in mice: 160 mg/kg (Sullivan).

Pentabenzyl ether, $C_{50}H_{40}O_7$, *3,3',4',5,7-pentakis(benzyloxy)flavone, penta-O-benzylquercetin, Parietrope.* Prepn: Chopin, Chadenson, *Compt. Rend. Ser. C* **263,** 729 (1966); Binovic, Ger. pat. **2,122,514** (1972 to Biosedra), *C.A.* **76,** 113072n (1972). Crystals, mp 123-125°. uv max (chloroform): 249, 343 nm (log ε 4.43, 4.14).

3-D-Galactoside hemipentahydrate, $C_{21}H_{20}O_{12}.2\frac{1}{2}H_2O$, *hyperin, hyperoside.* From *Acacia melanoxylon* R. Br., *Leguminosae:* Falco, de Vries, *Naturwiss.* **51,** 462 (1964). Yellow needles from ethanol, dec 227-230°. $[\alpha]_D^{20}$ −83° (c [illegible] in pyridine). uv max: 259, 364 nm (log ε 4.31, 4.39).

THERAP CAT: Capillary protectant.

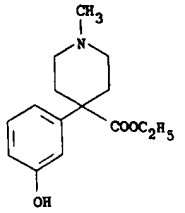
8045. Quercimeritrin. *2-(3,4-Dihydroxyphenyl)-7-(β-D-glucopyranosyloxy)-3,5-dihydroxy-4H-1-benzopyran-4-one;* quercetin-7-D-glucoside; 3,3',4',5,7-pentahydroxyflavone 7-D-glucoside. $C_{21}H_{20}O_{12}$; mol wt 464.37. C 54.31%, H 4.34%, O 41.34%. Found in flowers of *Gossypium herbaceum* L., *Malvaceae:* Perkin, *J. Chem. Soc.* **95,** 2181 (1909); from leaves of *Chrysanthemum ségetum* L. and *C. coronarium* L., *Compositae:* Geissman, Steelink, *J. Org. Chem.* 22, [illegible] (1957); Anyas, Steelink, *Arch. Biochem. Biophys.* 90, [illegible] (1960). Structure: Attree, Perkin, *J. Chem. Soc.* 1927, [illegible]; Rao, Seshadri, *Proc. Indian Acad. Sci.* **9A,** 365 (1939); *C.A.* **34,** 107¹ (1940); Pacheco, Grouiller, *Compt. Rend.* 253, [illegible] (1961).

Trihydrate, yellow plates from aq pyridine. The water of crystn is given up at 100°, the anhydr material is hygroscopic, mp 247-249°. uv max (ethanol): 372, 257 nm (log ε [illegible] 4.38). Practically insol in cold water, more sol in hot water, sol in methanol. Sol in aq alkaline solns with deep yellow color. Is hydrolyzed by 7% H_2SO_4 yielding 1 mol quercetin and 1 mol D-glucose.

In the mother liquor from quercimeritrin the glucosides gossypitrin and isoquercitrin *q.v.*, are also found. *Gossypetrin,* $C_{21}H_{20}O_{13}$, orange-yellow needles melting at 200-2[illegible], slightly sol in alcohol and acetic acid.

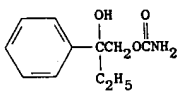
B

$_{21}NO_3$; mol wt 263.33. C 68.41%, H 8.04%, N 5.32%, 3%. Prepn: Morrison, Rinderknecht, *J. Chem. Soc.* , 1467; Eisleb, **Ger. pat. 752,755** (1952 to I. G. Farb **52,** 7361e (1958).



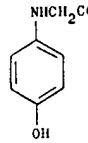
rystals from ethanol, mp 110°.
ydrochloride, $C_{15}H_{21}NO_3$·HCl, crystals, mp 173-1 ible in water; slightly sol in alc.
aution: May be habit forming. This is a controlled ce (opiate) listed in the U.S. Code of Federal Reg s, Title 21, Part 1308.11 (1985).
HERAP CAT: Narcotic analgesic.

770. Hydroxyphenamate. *2-Phenyl-1,2-butanedi rbamate;* carbamic acid β-ethyl-β-hydroxyphenet r; β-ethyl-β-hydroxyphenethyl carbamic acid ester; β l-β-hydroxyphenethyl carbamate; 2-hydroxy-2-phen l carbamate; Al 0361; Listica. $C_{11}H_{15}NO_3$; mol .24. C 63.14%, H 7.23%, N 6.69%, O 22.94%. Pr n β-ethyl-β-hydroxyphenethyl alcohol and ethyl chl nate followed by reaction with ammonia: Sifferd, Brit ; U.S. pat. **3,066,164** (1962 to Armour-Pharm.). Pha ology and toxicology: Bastian, Clements, *Dis. Nerv. Sy* 9 (1961).



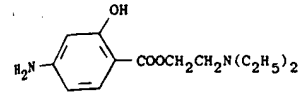
rystals, mp 55-56.5°. Soly in water at 25°: 2.5% $_{50}$ orally in mice: 830 mg/kg.
HERAP CAT: Anxiolytic.

771. *N*-(4-Hydroxyphenyl)glycine. *p*-Hydroxyp inoacetic acid; *p*-hydroxyanilinoacetic acid; photogr /cin; Iconyl; Monazol. $C_8H_9NO_3$; mol wt 167.16 48%, H 5.43%; N 8.38%, O 28.71%. Prepd from p henol and chloracetic acid: Vater, *J. Prakt. Chem.* (1884); Meldola *et al., J. Chem. Soc.* **111,** 552 (1 latis, *Helv. Chim. Acta* **4,** 576 (1921).



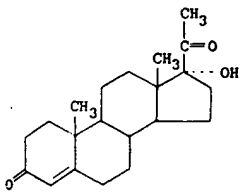
hiny leaflets from water, browns at 200°, begins to 220°, completely melted at 245-247° (decompn). Sp sol in water, alcohol, acetone, ether, chloroform, tate, benzene, glacial acetic acid. Sol in alkalies and l acids. Freely sol in warm 20% hydrochloric acid. SE: Photographic developer. In determination of tection and determination of phosphorus and id indicator in bacteriology.

4772. Hydroxyprocaine. *Diethylaminoethyl p ylate;* Oxycaine; Oxyprocain. $C_{13}H_{20}N_2O_3$; mol wt 61.88%, H 7.99%, N 11.10%, O 19.02%. Prepd by ion of diethylaminoethanol to an H_2SO_4 suspension inosalicylic acid: Grimme, Schmitz, *Ber.* **84,** 734 il, Rademacher, *Arzneimittel-Forsch.* **1,** 154, 218 imme *et al., ibid.* 326; *cf.* Swiss pat. 270,9 *em. Zentr.* **1951, II,** 102.



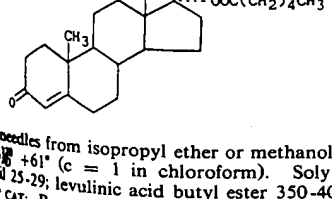
Soluble in chloroform.
drochloride, $C_{13}H_{20}N_2O_3$·HCl, prisms from ethanol, mp Soluble in water.
caine-*G* salt, $C_{13}H_{20}N_2O_3·C_{16}H_{18}N_2O_4S$, dec 112-113°. ghly sol in water (7.5 g/l).
HERAP CAT: Local anesthetic.

4773. 17α-Hydroxyprogesterone. *17-Hydroxypregn-4-ene-3,20-dione;* 4-pregnen-17α-ol-3,20-dione; Gestageno; $C_{21}H_{30}O_3$; mol wt 330.45. C 76.32%, H 9.15%, O Isoln from adrenal glands: Pfiffner, North, *J. Biol. Chem.* **132,** 459 (1940); **139,** 855 (1941); von Euw, Reichstein, *Helv. Chim. Acta* **24,** 879 (1941). Prepn: Julian *et al.*, U.S. pat. 2,648,662 (1953 to Glidden); Ringold *et al.*; Stork *et al.* U.S. pats. **2,802,839** and **2,805,203** (both 1957 to Syntex); Chemerda *et al.*; Cutler, Chemerda; Dulaney, McAleer; U.S. pats. 2,777,843; **2,786,856/7; 2,813,060** (all 1957 to Searle & Co.); Cutler *et al., J. Org. Chem.* **24,** 1629 (1959); Upjohn, U.S. pat. **3,000,883** (1961 to Upjohn).



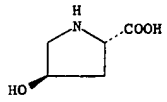
Rhombic or hexagonal leaflets from acetone or alcohol, 222-223° (rapid heating). With slow heating the substance undergoes molecular rearrangement accompanied by partial resolidification and becomes completely molten only 270°. $[\alpha]_D^{17}$ +105.6° (c = 1.0417 in chloroform).
Acetate, $C_{23}H_{32}O_4$, *17α-acetoxyprogesterone.* Crystals from chloroform + methanol, mp 239-240°. uv max: 240 nm (ε 4.33). *Ref:* Stork *et al., loc. cit.*
THERAP CAT: Progestogen.
THERAP CAT (VET): Estrus regulator.

4774. 17α-Hydroxyprogesterone Caproate. *17-[(1-Oxohexyl)oxy]pregn-4-ene-3,20-dione; 17-hydroxypregn-4-ene-3,20-dione hexanoate;* 17α-hydroxyprogesterone hexanoate; Delalutin; Hyproval P.A.; Lentogest; Pharlon; Proge; Proluton Depot; Teralutil. $C_{27}H_{40}O_4$; mol wt 428.59. C 75.66%, H 9.41%, O 14.93%. Prepn: Kaspar *et al.*, U.S. pat. 3,031,360 (1956 to Schering AG). Comprehensive description: K. Florey, Ed. in *Analytical Profiles of Drug Substances* Vol 4 (Academic Press, New York, 1975) pp 209-224.



Fine needles from isopropyl ether or methanol, mp 119-120°. $[\alpha]_D^{20}$ +61° (c = 1 in chloroform). Soly (mg/ml): oil 25-29; levulinic acid butyl ester 350-400.
THERAP CAT: Progestogen.

4775. 4-Hydroxy-L-proline. Hyp; L_s-hydroxyproline; 4-hydroxyproline; 4-hydroxy-2-pyrrolidinecarboxylic acid; $C_5H_9NO_3$; mol wt 131.13. C 45.79%, H 6.92%, N 10.68%, O 36.60%. An amino acid classified as nonessential with respect to its growth effect in rats. Constituent of collagen. Isoln from gelatin hydrolyzates: E. Fischer, *Ber.* **35,** 2660 (1902); Klabunde, *J. Biol. Chem.* **90,** 293 (1931). Synthesis: Leuchs, *Ber.* **38,** 1937 (1905); R. Gaudry, C. Godin, *J. Am. Chem. Soc.* **76,** 139 (1954); C. Eguchi, A. Kakuta, *Bull. Chem. Soc. Japan* **47,** 1704 (1974); S. G. Ramaswamy, E. Adams, *J. Org. Chem.* **42,** 3440 (1977). Flow sheets of four different syntheses: *Chem. & Eng. News* **40,** 40 (Nov. 12, 1962). Structure based on crystallographic data: Zussman, *Acta Cryst.* **4,** 72 (1951); Donohue, Trueblood, *ibid.* **5,** 414 (1952). Stereochemistry: Hudson, Neuberger, *J. Org. Chem.* **15,** 24 (1950). In plant glycoproteins: D. Ashford, A. Neuberger, *Trends in Biochem. Sci.* **5,** 245 (1980). Isoln of *cis*-form from *Santalum album* L.: A. N. Radhakrishnan, K. V. Giri, *Biochem. J.* **58,** 57 (1954). Detection of *cis*- and *trans* isomers in collagen hydrolysates: G. Bellon *et al., Anal. Biochem.* **137,** 151 (1984). Review of metabolism: E. Adams, L. Frank, *Ann. Rev. Biochem.* **49,** 1005-1061 (1980).



Rhombs or needles from water, mp 274°. $[\alpha]_D$ −76.5° (c = 2.5 in water). pK_1' 1.82; pK_2' 9.65. Soly in water at 0°: 288.6 g/l; at 25°: 361.1 g/l; at 50°: 451.8 g/l; at 65°: 516.7 g/l. Very slightly sol in alcohol; insol in ether.
cis-Form, *allohydroxyproline.* mp 238-241°. $[\alpha]_D^{18}$ −58.1° (c = 5.2 in water).

4776. Hydroxypropyl Cellulose. *Cellulose 2-hydroxypropyl ether;* oxypropylated cellulose; Klucel; Lacrisert. Nonionic water soluble ether of cellulose, *q.v.* that produces solns having a wide range of viscosity (200-2500 cp). Prepn: **Neth. pat. Appl. 6,401,036;** E. D. Klug, **U.S. pats. 3,278,520, 3,278,521** (1964, 1966, 1966 all to Hercules). Use in the treatment of dry eye syndrome: T. P. Werblin *et al., Ophthalmology* **88,** 78 (1981); P. Huguet *et al., Bull. Soc. Ophthalmol. Fr.* **81,** 1173 (1981). Review of chemistry, physical properties and uses: E. D. Klug in *Encyclopedia of Polymer Science and Technology* **vol. 15** (Interscience, New York, 1971) pp 307-314; A. J. Desmarais, *Industrial Gums,* R. L. Whistler, Ed. (Academic Press, New York, 2nd ed., 1973) pp 649-672.

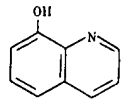
Off-white powder, softens at 130°. Sol in many polar organic solvents. Ppts from water at 40-45°. Thermoplastic.
USE: As emulsifier, stabilizer, whipping aid, protective colloid, film former or thickener in foods; as binder in ceramics and glazes; in hair and cosmetic prepns; in vacuum-formed containers and blow-molded bottles; as suspending agent in PVC polymerization. Pharmaceutic aid (tablet coating agent).
THERAP CAT: Protectant (topical).

4777. Hydroxypropyl Methylcellulose. *Cellulose 2-hydroxypropyl methyl ether;* hypromellose; Gonak; Goniosol; Lacril; Tearisol; Methocel HG; Ultra Tears. Non-ionic water soluble ether of methylcellulose, *q.v.* that produces solns having a wide range of viscosity (400-15,000 cp). Prepn: A. B. Savage, **U.S. pat. 2,949,252** (1960 to Dow). Review of chemistry, physical properties and use: *idem, Encyclopedia of Polymer Science and Technology* **vol. 3** (Interscience, New York, 1965); pp 496-511; G. K. Greminger, A. B. Savage, *Industrial Gums,* R. L. Whistler, Ed. (Academic Press, New York, 1973) pp 619-647.

Powder. Dissolves slowly in cold water. Insol in hot water. Sol in most polar organics. Has thermogelling properties. Has higher salt tolerance and is more sol than methylcellulose.
USE: As emulsifier, film former, protective colloid, stabilizer, suspending agent, or thickener in foods. Pharmaceutic aid (suspending agent; tablet excipient; demulcent; viscosity increasing agent); ophthalmic lubricant. In adhesives, asphalt emulsions, caulking compounds, tile mortars, plastic mixes, cements, paints. As sticker for agricultural sprays and dusts.

4778. 8-Hydroxyquinoline. *8-Quinolinol;* oxyquinoline; hydroxybenzopyridine; oxybenzopyridine; phenopyridine; oxychinolin; oxine; Bioquin; Quinophenol. C_9H_7NO; mol wt 145.15. C 74.47%, H 4.86%, N 9.65%, O 11.02%. Prepn

from *o*-aminophenol, glycerol and H_2SO_4: Z. H. Skraup, *Monatsh.* **1**, 316 (1880); **3**, 536 (1882); R. H. F. Manske *et al., Can. J. Res.* **27F**, 359 (1949). *Review:* J. P. Phillips, *Chem. Rev.* **56**, 271-297 (1956). Book: R. G. W. Hollingshead, *Oxine and Its Derivatives*, I-IV (Butterworth, London, 1954/56).



White crystals or cryst powder. mp 76°. bp ~267°. Almost insol in water, ether; freely sol in alc, acetone, chloroform, benzene, aq mineral acids. LD_{50} i.p. in mice: 48 mg/kg, Bernstein *et al., Toxicol. Appl. Pharmacol.* **5**, 599 (1963).

USE: As fungistat; chelating agent in determn of trace metal ions.

THERAP CAT: Disinfectant.

4779. 8-Hydroxyquinoline Sulfate. *8-Quinolinol sulfate;* oxyquinoline sulfate; oxine sulfate; 8-hydroxyquinoline sulfuric acid salt; Quinosol; Chinosol. $C_{18}H_{16}N_2O_6S$; mol wt 388.40. C 55.66%, H 4.15%, N 7.21%, O 24.72%, S 8.25%. $(C_9H_7NO)_2.H_2SO_4$.

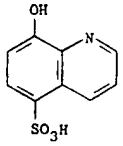
Pale yellow, cryst powder; slight saffron odor; burning taste. mp 175-178°. Freely sol in water; sol in about 100 parts glycerol, slightly in alcohol; insol in ether.

Aluminum salt, $C_{27}H_{24}AlN_3O_{15}S_3$, *Nyxolan, Aloxyn.*

USE: Antiseptic, antiperspirant, deodorant.

THERAP CAT: Topical antiseptic, disinfectant.

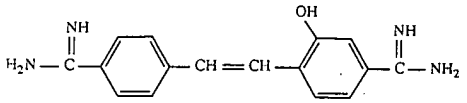
4780. 8-Hydroxy-5-quinolinesulfonic Acid. $C_9H_7NO_4S$; mol wt 225.22. C 47.99%, H 3.13%, N 6.22%, O 28.42%, S 14.24%. Prepn: K. Matsumura, *J. Am. Chem. Soc.* **49**, 810 (1927); N. K. Chawla, M. M. Jones, *Inorg. Chem.* **3**, 1549 (1964).



Pale yellow, needle-like crystals or cryst powder; odorless. mp 322-324°. Freely sol in water, slightly in organic solvents.

USE: In determn of trace metal ions.

4781. Hydroxystilbamidine. *4-[2-[4-(Aminoiminomethyl)phenyl]ethenyl]-3-hydroxybenzenecarboximidamide;* 2-hydroxy-4,4'-stilbenedicarboxamidine; 2-hydroxy-4,4'-diamidinostilbene; 2-hydroxy-4,4'-diguanylstilbene; 2-hydroxystilbamide. $C_{16}H_{16}N_4O$; mol wt 280.33. C 68.55%, H 5.75%, N 19.99%, O 5.71%. Prepn: J. N. Ashley, J. O. Harris, *J. Chem. Soc.* **1946**, 567; A. J. Ewins *et al.*, **Brit. pat. 574,486;** A. J. Ewins, **U.S. pat. 2,510,047** (1946, 1950 both to May & Baker). Organ and tissue distribution in animals: I. Snapper *et al., Cancer* **4**, 1246 (1951). Pharmacology and antiprotozoal activity: I. Snapper *et al., Trans. N.Y. Acad. Sci.* **14**, 269 (1952). Probe for studying nucleic acid conformation: B. Festy, *C.R. Acad. Sci. Ser. D* **266**, 1433 (1968); B. Festy, M. Daune, *Biochemstry* **12**, 4827 (1973); B. Festy *et al., Biochim. Biophys. Acta* **407**, 24 (1975). Crystal structure: C. Courseille *et al., C.R. Acad. Sci. Ser. C* **274**, 1921 (1972). Use as a fluorochrome for selective staining of nuclei: L. B. Murgatroyd, *Histochemstry* **74**, 107 (1982). *Review:* B. Festy in *Antibiotics* **vol. 5**, pt. 2, F. E. Hahn, Ed. (Springer-Verlag, New York, 1979) pp 223-235.

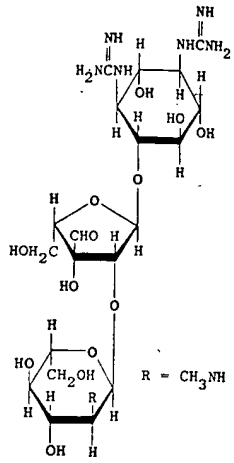


Yellow microcrystals from nitrobenzene, mp 235° [illegible] in mice (mg/g); 0.027 i.v.; 0.14 s.c. (Ewins, 1950).

Isethionate, $C_{20}H_{28}N_4O_9S_2$, yellow crystals, discolored [illegible] light, mp 286° (dec). Freely sol in water. Soly in alcohol ~1.0 g/100 ml. Practically insol in ether. pH of a [illegible] soln 3.3 to 5.3. Solns show strong yellow fluorescence [illegible] uv light. Solns should be freshly prepared. Although [illegible] hydroxy compd is more stable in soln, such solns should [illegible] be stored and must not be used if cloudy.

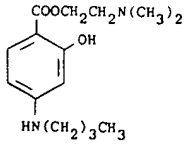
THERAP CAT: Antiprotozoal (Leishmania).

4782. Hydroxystreptomycin. Reticulin (the antibiotic) $C_{21}H_{39}N_7O_{13}$; mol wt 597.60. C 42.21%, H 6.5[illegible] 16.41%, O 34.81%. Antibiotic substance produced by *Streptomyces reticuli:* Hosoya *et al., Japan. J. Exp. Med.* 20, [illegible] (1949), *C.A.* **45**, 3459i (1951); by *S. griseocarneus* (from Japanese soil): Stodola *et al., J. Am. Chem. Soc.* 73, [illegible] (1951); Benedict, Stodola, **U.S. pat. 2,617,755** (1952 to U.S. Secy. Agr.); by *Streptomyces* NA 232-M1: Grundy *et al., Antibiot. & Chemother.* **1**, 309 (1951); by *S. subrutilus* [illegible] *et al., J. Antibiot.* **17A**, 23 (1964). Identity of reticulin antibiotic) and hydroxystreptomycin: Hosoya *et al., Jap. J. Exp. Med.* **22**, 303 (1952), *CA.* **48**, 3477a (1954). From Ambrose, *Proc. Soc. Exp. Biol. Med.* **76**, 466 (1951).



Trihydrochloride, $C_{21}H_{42}Cl_3N_7O_{13}$. The physical characteristics approx those of streptomycin. The specific rotation in water is 91° under conditions which give 86.[illegible] streptomycin trihydrochloride. Hydroxystreptomycin trihydrochloride, when assayed against *Bacillus subtilis*, was found to be equiv to 784 μg of streptomycin base/mg. The corresponding value of streptomycin is 842 μg/mg. LD_{50} in mice: 865 mg/kg (Ambrose).

4783. Hydroxytetracaine. *4-Butylamino-2-hydroxybenzoic acid 2-dimethylaminoethyl ester; p-butylaminosalicylic acid 2-dimethylaminoethyl ester;* 2-dimethylaminoethyl *p*-butylaminosalicylate; hydroxamethocaine; Rheomin; Salicain. $C_{15}H_{24}N_2O_3$; mol wt 280.36. C 64.26%, H 8.6[illegible] N 9.99%, O 17.12%. Prepn: **Brit. pats. 736,960** (1955) to **760,003** (1956 to Rheinpreussen AG); Grimme, Schm[illegible] *Ber.* **84**, 734 (1951).



Hydrochloride, $C_{15}H_{24}N_2O_3.HCl$, crystals from water, [illegible] 157°. Soly in water at 20°: about 4%.

Hemihydrate, prisms from ligroin, mp 48°.

THERAP CAT: Topical anesthetic.